

SWBAT: explain how an electroscope works using induction

Jan 4-7:20 AM

Welcome!!!

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SECA Physics
Monday 10 February 2014

* Pick up:

- slip of paper (for later)
- white board, marker, eraser

Centering

Opening question:

What kind of electron transfer is going on here?



Sep 7-7:04 AM

"Life is like a box of chocolates"

"There are plenty of fish in the sea."

The like / opposite "smell" analogy

Guys: don't like how other guys smell and try to move away
DO like how women smell and try to move closer

Women: don't like how other women smell and try to move away
DO like how guys smell and would move closer if they could but are stuck in their chairs

People are on little boats (?) surrounded by acid (?)

Grounding: a large object can give or take electrons to make things neutral

Electroscope animation

<http://www.regentsprep.org/Regents/physics/phys03/aeleclab/nerscope.htm>

Induction animation


<http://www.physicsclassroom.com/mmedia/estatics/isop.cfm>

Charge Polarization animation

http://photonicswiki.org/index.php?title=Polarization_and_Polarizability

Feb 3-7:07 AM

What is happening with the pie tin?




If the pith ball is charged by touching the top edge of the plate, what kind of charge will the ball have?

* positive * **negative** * neutral

Once that happens, how will the pith ball feel about the edge of the pie tin?

* attracted * **repelled** * neither / nothing



A person is very large and overall their charge is pretty much

* positive * negative * **neutral**

People are so large that they can give or take away electrons as needed and still stay pretty much neutral. This is called

* conserving * contact * **grounding**

How do the negative charges on the pith ball feel about the finger (compared to the pie tin)?

attracted * repelled * neither / nothing

Once it touches the finger, the pith ball's charge will be

* positive * negative * **neutral**

What does induction mean?

* rubbing * touching/spark * **rearranging**

What will happen to the electrons on the pith ball as it swings back toward the pie tin?

e's move away * e's move towards * e's don't move

When that happens, how will the pith ball feel about the edge of the pie tin?

attracted * repelled * neither / nothing

Negative, neutral, negative, neutral, The pith ball will keep swinging back and forth from pie tin to finger until...

forever * **top of the pie tin is as neutral as the finger** * only once

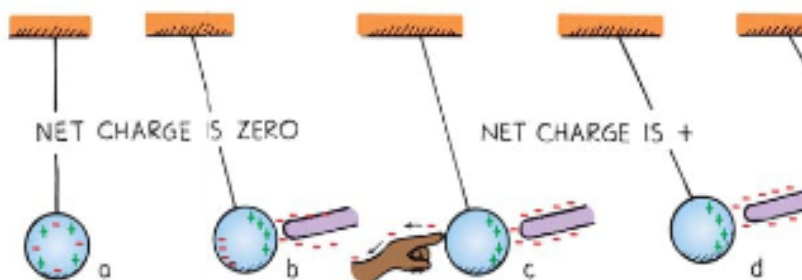
Feb 10-7:30 AM

What would you guess "electro-scope" means?
 SHOW/LOOK AT
 ELECTRIC CHARGE
 ELECTROSCOPE SHOWS ELECTRIC CHARGE

- * Watch the animation: start, middle, end
- * Describe what is happening: start to middle, middle to end
- * Tell your description to someone nearby and listen to theirs
- * Write a description explaining how an electroscope works

Feb 10-7:51 AM

Induced Charge!



Worksheet practice on induction...

Feb 9-7:44 AM

Daily 3 Questions

- * Every day except test/project days
- * 3 Questions on the topics of the day
- * Main source of daily points
- * I am happy to give credit when I have no concerns about someone giving or getting help with the answers.

CP Hmwk: Does an electroscope tell you whether an object's charge is positive or negative? Why or why not?

You can't get your points if you don't have your NAME!!!

Name	Period
1.	
2.	
3.	

Sep 9-7:32 AM

1. As the pith ball travels away from the negative pie tin, its charge is NEG. and on the way back its charge is NEUT.

- a. neutral, negative
- b. negative, positive
- c. negative, neutral

2. An electroscope shows if an object has

- a. magnetism
- b. gravity
- c. electric charge

3. When a ~~positively~~ charged rod touches a metal sphere, what kind of charge does the sphere get?

~~NEG. LY~~ ~~PIE TIN~~ ~~PITH BALL~~
 PITH BALL NEG.

Jan 3-7:48 AM